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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
DODD, RYAN P	

ART UNIT	PAPER NUMBER
4134	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/564,003	ULLRICH ET AL.	
	Examiner	Art Unit	
	RYAN DODD	4134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/9/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: the limitation "deactivating an **electronic control** associated with a charging operation of a high pressure accumulator and carried out by an **electronic regulation and control unit**" has caused confusion because of the similarity of the two terms. More than one examiner has interpreted "deactivating an electronic control associated with…" to mean a deactivation of the entire "electronic regulation and control unit". It is recommended to change the words "electronic control", to "electronic signal", "electronic operation", or "electronic program", or the like.

2. Claim 10 is objected to because of the following informalities: There may be a grammatical error in the claim: "[…] wherein the displacement of pressure fluid, with the high-pressure accumulator charged, takes place by partly opening the inlet valves and in the reduction of the pressure fluid volume contained in the high pressure accumulator *is* taken into consideration as an indicator of the displacement of pressure fluid. It is unclear whether "in the pressure fluid volume contained in the high pressure accumulator" is the object of "takes place…", or the subject of "…is taken into consideration as an indicator of the displacement of pressure fluid." In other words,

there are two verbs in the sentence: “takes place”, and “is”, that could be read as acting on the same thing.

3. It is recommended to insert “which”, or “which then” before “is”: “which is taken into consideration…” in order to shore up confusion and not change the original meaning of the claim.

Appropriate correction is required.

Specification

4. The disclosure is objected to because of the following informalities: The first paragraph of the Specification refers to the preamble of claim 1. It should refer to claim 9, as amended by Applicant.

Appropriate correction is required.

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

6. Claims 10 and 11 refer to the high pressure accumulator 21 being charged or discharged, respectively. However, the specification does not provide a basis for determining at what point or pressure the high pressure accumulator is deemed to be charged, or discharged.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The statement "is indefinite as to what condition is to be adjudged.

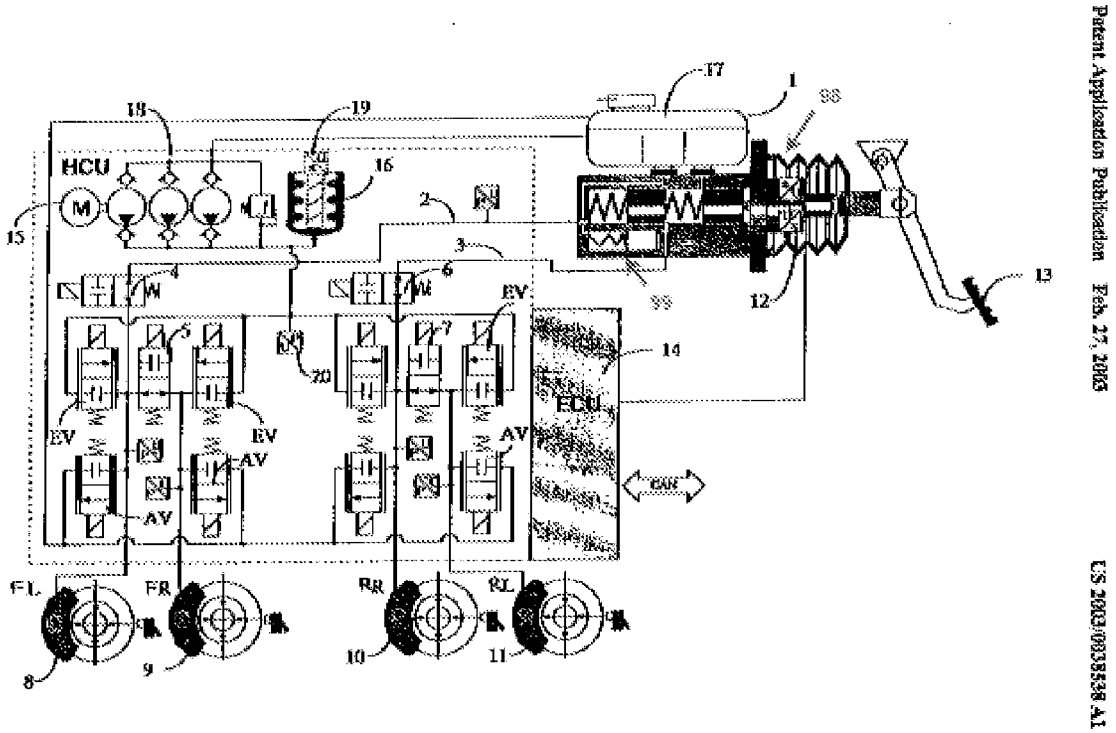
Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 9-11 are rejected under 35 U.S.C. 102(b) as being unpatentable over Niepelt US 2003/0038538, (hereinafter Niepelt '538).



11. As to claim 9, Niepelt '538 discloses a method of monitoring an electrohydraulic brake system for motor vehicle, having a master brake cylinder (master cylinder 1) operable by a brake pedal (13), a travel simulator (99) cooperating with the brake pedal (13), at least one pressure source actuatable by an electronic regulation and control unit

(ECU 14) which is formed of a high-pressure accumulator (pressure fluid accumulator 16) that can be charged by means of a pump (three-piston pump 18), and the pressure of the pump can be applied to wheel brakes (8,9) of the vehicle which are connectable to the master brake cylinder (1), on the other hand, by means of at least one hydraulic connection (hydraulic conduit 3) that can be closed by means of a separating valve (6), with a device (33) for detecting the driver's deceleration request (98), and with each one inlet valve (EV) connected upstream of the wheel brakes (8, 9) and an outlet valve (AV), the method comprising:

closing a separating valve (4) associated with a vehicle axle (page 2, paragraph 18, last two lines),

opening inlet valves associated with the vehicle axle for the purpose of displacing pressure fluid volume into wheel brakes of the vehicle axle, while determining values representative of a hydraulic pressure introduced into the wheel brakes and a displacement of pressure fluid volume (page 2, paragraphs 19 and 20, in this case the values representative of a hydraulic pressure introduced into the wheel brakes are determined at a preset level of roughly 1 or 5 bar, and the displacement of fluid volume (filling quantity, volume of pressure fluid conducted) is determined by a sensor 19); and

evaluating the values to judge the condition of the wheel brakes (emergency braking capability, page 2, paragraph 20, last two lines).

12. Niepelt '538 does not explicitly disclose "deactivating an electronic control associated with a charging operation of a high-pressure accumulator and carried out by an electronic regulation and control unit." Admittedly, Niepelt '538 teaches a charging of the accumulator 16 as an initial step in its method (page 2, paragraph 18, lines 5-6).

13. Under the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. *In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986).* MPEP 2112.02

14. As determined from the prior art it is customary to deactivate an electronic control associated with a charging operation of a high-pressure accumulator (in order to stop a pump) once the pressure of the accumulator reaches a desired level. So, it is safe to deduce that deactivating an electronic control associated with a charging operation of a high-pressure accumulator was inherent to Niepelt's step of charging the accumulator (page 1, paragraph 7). Thus, Niepelt '538's method reads on this claim as written.

15. As to claim 10, Niepelt '538 discloses the method according to claim 9, wherein the displacement of pressure fluid, with the high-pressure accumulator charged (page 2,

paragraph 18, line 5) takes place by partly opening the inlet valves (introducing a low pressure of roughly 1 bar, page 2 paragraph 19 lines 4-5) and in the reduction of the pressure fluid volume contained in the high-pressure accumulator is taken into consideration (measuring…the filling quantity by means of sensor 19,) as an indicator of the displacement of pressure fluid.

16. As to claim 11, Niepelt discloses the method according to claim 9, but does not disclose the rest of the claimed method. But, under the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. *In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986).* MPEP 2112.02

17. In most ordinary operations of an electrohydraulic braking system, the separating valve is closed. And if the high pressure accumulator happened to be discharged when an operator actuated the brake pedal, then the pump would be called upon by the electronic control unit to go ahead and supply pressure fluid to the wheel brakes, whereby the inlet valves would be opened to do so. Nowhere has applicant stated that his method is affected by the actuation of pedal, or that the method is precluded by actuation of the pedal, or vice versa.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

19. Claims 11-16 are rejected under Niepelt '538 in view of US 7034673 B2 Buschmann, (hereinafter Buschmann '673)

20. As to claim 11, Niepelt '538 discloses the method according to claim 9, but does not disclose the rest of the claim 11. However, the method claimed by applicant is consistent with the ordinary braking operations of an electrohydraulic braking system when an accumulator is not charged and an operator actuates the brake pedal. Buschmann '673 further teaches a method similar to applicant's, to be described in more detail below, which does not provide for a charging of the high pressure accumulator before initiating steps of his method. Admittedly, Buschmann's method can be carried out while a vehicle is involved in ordinary driving operations. That his method could be carried out while the vehicle is being driven is evidence that it would have been obvious to one having ordinary skill in the art at the time the invention was made to open inlet valves, and actuate the pump (in order to brake the wheel) should an

operator happen to depress the brake pedal while the high-pressure accumulator is discharged.

21. As to claim 12, Official Notice is taken that integrating a given value with respect to time is a conventional or well-known operation to be performed by electronic control units. Therefore, it would have been obvious to a person having ordinary skill in the art to approximate the displacement of pressure fluid by numerical integration of the pump volume flow within the electronic control unit.

22. As to claim 13, Niepelt '538 in view of Buschmann '673 discloses the method according to claim 12, wherein values representing the hydraulic pressure and the displacement of pressure fluid volume are compared with previously defined threshold values and the results of the comparison are subjected to a time pressure/volume correlation, (see Buschmann '673, column 3, lines 18-20, and lines 9-11 and see Niepelt '538 page 2, paragraph 20). Because both Niepelt '538 and Buschmann '673 teach a measurement of wheel brake pressure and the displacement of pressure fluid with respect to time, and compare these values to defined thresholds, it would have been obvious to one of ordinary skill in the art to do so while carrying out applicant's method.

23. As to claim 14, Niepelt '538 in view of Buschmann '673 disclose the

method according to claim 13, and Buschmann '673 teaches "wherein a condition is concluded from an increase of the hydraulic pressure introduced into the wheel brakes in excess of the previously defined threshold value, during which the indicator of the displacement of pressure fluid does not reach the threshold value, in which condition the friction elements of the wheel brakes are applied to their associated friction surfaces." Buschmann '673 teaches that the volume uptake due to a defined braking pressure is increased due to either air inclusions in the braking fluid or excessively large clearances in the wheel brake. (See page two, lines 35 - 40) Buschmann '673 also teaches an initial estimation of the wheel brake clearance so that his method may ignore a large volume uptake that is probably due to an excessive clearance of the wheel brake. (See columns 2 and 3, Brief Summary of the Invention). If an alarm is not triggered, it means that the wheel brake pressure and volume uptake (and wheel brake clearance) are within acceptable limits and the system is allowed to apply the friction elements of the wheel brakes to their associated friction surfaces with no alarm. Niepelt '538's method acts in much the same way but by keeping the braking pressure at a certain value instead of allowing a complete braking pressure. It would thus have been obvious to one of ordinary skill in the art to allow a brake to brake as long as the wheel brake pressure and volume uptake are within acceptable limits or threshholds determined beforehand.

24. As to claims 15-16, Niepelt '538 in view of Buschmann '673 disclose the method according to claim 14, and Buschmann '673 teaches "the indicator of the displacement of pressure fluid exceeds the threshold value and the hydraulic pressure introduced into the wheel brakes does not reach the threshold value, an inadmissible displacement travel of pistons provided in the wheel brakes is concluded, representing an imminent risk to maintenance staff during maintenance works at the wheel brakes." (See column 5, lines 42, When the clearance is in condition,…due to precisely the large clearance…). Admittedly, Buschman '673 precludes an alarm being triggered to the large clearance (inadmissible displacement travel of pistons) because the vehicle is in normal driving operation. But, the claim would have been obvious because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. Because the prior art demonstrates numerous methods for measuring volume uptake and pressure at the wheel brakes, and it was known that pressure-volume-time correlations could be used to detect air inclusions in the brake fluid and inadmissible piston travel, it would have been obvious to apply this sort of test during maintenance works at the wheel brakes instead of during vehicle operation.

Conclusion

25. The following are suggested formats for either a Certificate of Mailing or Certificate of Transmission under 37 CFR 1.8(a). The certification may be included with all correspondence concerning this application or proceeding to establish a date of mailing or transmission under 37 CFR 1.8(a). Proper use of this procedure will result in such communication being considered as timely if the established date is within the required period for reply. The Certificate should be signed by the individual actually depositing or transmitting the correspondence or by an individual who, upon information and belief, expects the correspondence to be mailed or transmitted in the normal course of business by another no later than the date indicated.

Certificate of Mailing

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(Date)

Typed or printed name of person signing this certificate:

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Typed or printed name of person signing this certificate:

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Signature: _____

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Please refer to 37 CFR 1.6(d) and 1.8(a)(2) for filing limitations concerning facsimile transmissions and mailing, respectively.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RYAN DODD whose telephone number is (571)270-1161. The examiner can normally be reached on Monday thru Friday, 7:30A-5P.
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Nguyen can be reached on (571)272-4491. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Examiner Ryan Dodd/ 5/11/2009

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/George Nguyen/
Supervisory Patent Examiner, Art Unit 4134